

centimeter of the extract (twenty international units) was required daily to render a patient symptom-free. The adjuncts, *i. e.*, radiation of the sella tursica (even in the absence of tumor) and physiotherapy, were resorted to in the case reported. Our observations confirm those of Faelli,<sup>4</sup> who found roentgen exposures of the hypophyseal region combined with posterior pituitary therapy more effective than exclusive treatment with pituitary alone.

350 Post Street.

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### UNUSUAL EMBRYONAL DEVELOPMENT ERROR\*

By W. A. SHAW, M. D.  
*Reno, Nevada*

CERTAIN congenital deformities are more or less commonly seen in living infants, as club-foot, harelip and cleft palate, branchial cysts or fistulae, spina bifida and meningoceles, malformations of the genital and urinary tracts, as well as maldevelopments of the alimentary canal, imperforate anus, pyloric stenosis, and nonformation of various segments, and the like. Many more errors in development of the embryo are found in the dead fetus, such as absence of extremities, and monstrosities of various kinds.

The case I am presenting is apparently an error in development in one of the lower embryonal buds. According to anatomical authority<sup>1</sup> in embryology, the lower-limb buds commence as anterior and posterior folds at the lower end, or tail, of the embryo for the formation of the thigh and leg at about the third week of intra-uterine life. These folds and the forming limb bud should be approximately the same size on each side. The development of this part of the body occurs later than that of the upper portions of the body.

#### REPORT OF CASE

A baby girl, at present five months old, after an instrumental delivery at the hospital was found by the mother, upon the arrival of both at home, to have an inequality in the size and contour of the lower extremities. The baby was brought to me when about two months old. There was nothing unusual about the infant at this time except an apparent exophthalmos (which was found to be a family characteristic), a condition of protein and mineral deficiency in the diet, and an easily discernible difference in the lower limbs. Both limbs were apparently normal in development as regards bone and soft tissue structure. There was no evidence of lymph block, or of interference with the circulation anywhere suggestive of pseudo-elephantiasis or hyperplasia due to increased nutrition and stimulation of the affected area. The right lower part,

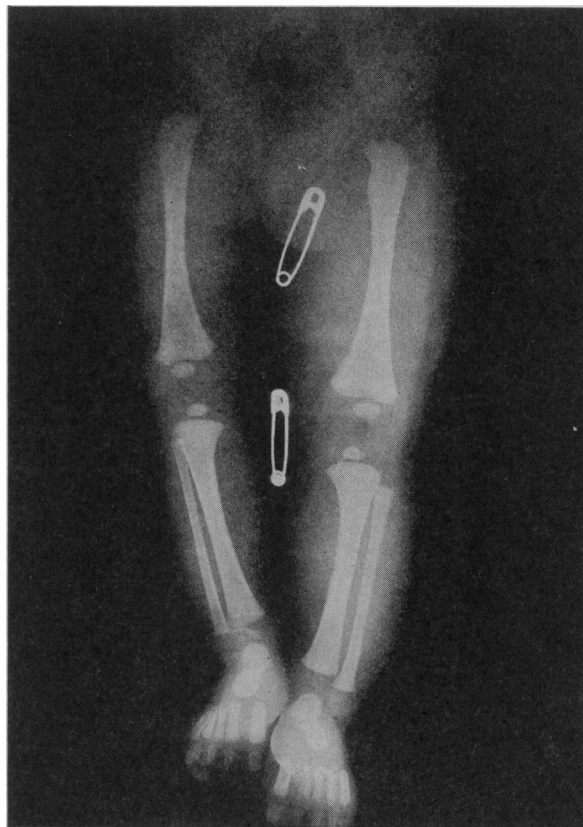


Fig. 1.—Showing asymmetry of extremities.

from the lumbar region down, was uniformly larger than the left, buttock, hip, labia, thigh, and leg. Measurements to contrast the limbs were taken as accurately as possible, and were as follows:

- Left anterior spine superior to tip of fibula, 6 7/8 inches.
- Right, 7 1/4 inches.
- Left mid-thigh diameter, 4 15/16 inches.
- Right, 5 7/16 inches.
- Left calf, mid-diameter, 3 3/4 inches.
- Right, 4 3/16 inches.

Figure 1 clearly shows the asymmetry in the limbs, both bone and soft parts; and there seems to be a difference in the size of the ilia as well.

The family history is essentially negative as to malformations or deformities in the past; there is a questionable history of tuberculosis in a maternal grandparent, while the parents of this child are both exceptionally well-developed, physically and mentally, and two sisters of the baby are strong healthy girls, with well-developed, sound bodies.

In the baby, the head, upper extremities, and other parts of the body seem to match with the left leg; the right lower part being definitely an error in development.

#### COMMENT

Many theories as to the etiology of such a condition may be drawn, such as endocrine unbalance, which does not seem probable when only one limb bud is involved. Circulatory nutritional disturbance, due to anomalous blood vessels, seems ruled out by the height of the disproportion, as well as the definite bone difference. It seems to be an original difference in the cells of the group forming the folds of the limb bud, or a difference in the reaction in the group to the cell growth-stimulating agency, whatever that may be.

\* Read before the thirtieth annual session of the Nevada State Medical Association, Las Vegas, September 29, 1933.

It is reported that such errors in development sometimes affect one whole side of the body, one extremity, upper or lower, but, more usually, one lower extremity. I have been fortunate in seeing several such cases in this country and abroad. These individuals grow up and live normal lives without serious inconvenience, except from an esthetic standpoint. The difference in the length of the lower limbs is taken care of by pivoting and rotation in the hips, or by a built-up shoe on the shorter side. Usually the difference in the extremities is hardly noticeable when the parts are covered by ordinary clothing.

The treatment in the case presented has been improvement in general condition by supplementary feedings, increase in vitamin and mineral intake, and exposure to sunlight and the like, with excellent results; while the only treatment thus far instituted for the asymmetry in the limbs has been massage and exercise in the smaller portions, in so far as is possible in so small a child, while keeping the larger parts as quiet as possible. This treatment has been faithfully carried out by the mother with my help, and at present there seems to be some diminution in the asymmetry—in appearance at least. Later on, treatment by further stimulating the growth of the smaller limb is contemplated, by increased exercise, hyperemia, and electrical stimulation. In the future, if necessary or desired, one of the methods of increasing the length of long bones may be used, such as bone graft in the shorter femur; or by increasing bone growth through interference with the circulation in the metaphyses of the shorter femur and tibia by section through the medullary cavity according to the method recently described by Ferguson<sup>2</sup> in *The Journal of the American Medical Association*. I have been unable to find reports as to the results of treatment in such cases in the current literature.

A further report regarding this peculiar developmental error will be given after sufficient time has elapsed to deduce the value of various procedures.

Medico-Dental Building.

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**Red Cross and Unemployment Relief.**—More than two-thirds of the nation-wide system of Red Cross chapters and branches are today participating in unemployment relief. These include such activities as garment production and distribution, provision of hot school lunches and milk for needy children, family welfare work, aiding veterans of the World War and transients, promoting food conservation by canning the surplus products. The Red Cross has accommodated itself to the unusual needs of the times by extending its sphere of helpfulness and multiplying its deeds of mercy. The memberships of the American people, subscribed at the annual roll call, from Armistice Day to Thanksgiving, make possible this augmented service.

## RUPTURED VENTRAL HERNIA

By H. M. GINSBURG, M. D.  
Fresno

#### REPORT OF CASE

**H.** S., female, aged 47 years, was admitted to the General Hospital of Fresno County at 12:30 a. m., September 30, 1931. Patient did not speak English, and only the following history was obtained. A laparotomy was performed in 1929, following which there was a weakness in the abdominal wall at the site of the incision. About 3 p. m., September 29, 1931, while working in the grape fields, the patient felt a sudden "give" in her lower abdomen. Upon inspection she noted coils of intestines protruding from the skin. After consulting a physician she was brought to the hospital, a distance of forty-five miles. Upon her arrival, at 12:30 a. m., an examination revealed a well-developed, well-built female in marked pain, with about thirty inches of small intestines protruding through the skin and strangulated at the base. The intestines were black and dry.

Under ether anesthesia the skin, fascia, and peritoneum were incised and the strangulation freed. Using the aseptic technique, an end-to-end anastomosis was performed after removing about thirty-six inches of ileum. The excess peritoneum forming the hernial sac was removed, the abdomen was drained, and the peritoneum closed. The fascia was cleaned and overlapped with no apparent tension. Silkworm-gut sutures were used as retention sutures, and for the closure of the skin after the excess had been removed.

The patient was in shock immediately postoperative, with a temperature of 97 degrees centigrade and a pulse of about 78. Subcutaneous glucose, 5 per cent, and stimulants were given, and the patient was treated for shock. After twenty-four hours the patient's temperature was 101 degrees centigrade, but she required no narcotics, was voiding frequently in small amounts, and had a bowel movement—in all probability from material in the colon which had not yet emptied.

During the next seven days the temperature ranged between 98 and 101 degrees centigrade, and the pulse between 78 and 96. The dressings were changed frequently and the wound, on account of the foul odor, was irrigated with potassium permanganate. The patient was not coöperative, would pick the wound at all times, and was having daily bowel movements at this time. Except for a foul discharge from the wound, and a slight elevation of temperature to 101 degrees centigrade, she made an uneventful recovery. On October 19 all sutures were removed, leaving a superficial gap of the skin with slight drainage. Twelve days later the skin and superficial fascia were resutured and the patient, with no evidence of herniation and having normal daily bowel movements, was discharged on November 12, with the abdomen entirely healed. Examination months after discharge showed no changes.

**Pathologic Report of Specimen.**—Specimen consists of masses of skin and subcutaneous fat, and about thirty inches of intestines, mostly gangrenous with gangrenous mesentery. The mucosa is hemorrhagic and the lumen of the bowel contains much free blood.

#### COMMENT

The case report is presented because of the unusual occurrence. There must have been a thinned-out, well-developed ventral hernia, to allow the intestines to perforate the skin with the usual intra-abdominal pressure. Fortunately the intestines were not perforated during the elapsed time from occurrence to operation. The resistance of this individual was sufficient to ward off the severe peritonitis which ordinarily would have developed.